

REMARKS

Claims 7-29 are pending.

103(a) Rejections over Fukuda in view of Shibuya

Claims 7-10, 15, 20, and 25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (U.S. Patent No. 4,985,538) in view of Shibuya (U.S. Patent No. 5,270,390). Applicants traverse the rejections.

Optimization of Shrinkage Properties

On page 3 of the Office Action, the Examiner acknowledges that Fukuda fails to disclose the claimed shrinkage of the present invention. The Examiner then asserts that “Fukuda et al disclose a film having a shrinkage of 30% or more in the main shrinkage direction when the film is put in water at 95 degrees Celsius for 5 seconds...Therefore, the shrinkages would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product.” Applicants disagree.

The Examiner refers to In re Boesch and Slaney (205 USPQ 215) to support the position that “discovery of an optimum value of a result effective variable in a known process is ordinarily within skill of art.” The Boesch invention is directed to a metal alloy composed of various elements to provide an electron hole number, N_v , not in excess of about 2.35 according to the following formula:

$$N_v = 4.66 (\text{at\% C} + \text{at\% Mo}) + 1.71 (\text{at\% Co}) + 0.61 (\text{at\% Ni})$$

where at% = atomic percentage. In Boesch, the court points out that it has been known since 1938 the effect of the N_v value with respect to metal alloys; therefore, the prior art would have suggested to one of ordinary skill in the art the experimentation necessary to achieve the claimed composition of the Boesch invention. Hence, the claimed composition with the “result effective variable” of N_v would be obvious. However, Boesch is not germane in this case.

One skilled in the art would have had no expectation of success in increasing film shrinkage in the main shrinkage direction while decreasing shrinkage along the perpendicular direction, which was unexpectedly achieved by the present inventors. Unlike the N_v value of the Boesch alloy, the shrinkage properties of a polymer film can not be linearly determined

according to the proportions of the film components or to the shrinkage determined under different conditions. Hence, there can be neither inference nor expectation that shrinkage properties of Fukuda could be modified to produce those of the claimed invention, absent such a teaching in Fukuda.

Hence, the Examiner's reliance on In re Boesch and Slaney for the concept of "optimization" is misplaced. The shrinkage properties recited in the claims are not result-effective properties that require more optimization.

Combination of Fukuda and Shibuya

On page 6 of the Office Action, the Examiner asserts that the warm water resistance of Fukuda and the cold water resistance of Shibuya are not necessarily contrary. Applicants disagree.

Shibuya identifies prior art laminates of a polyester layer and a PVDC layer as having defects occurring due to oil and heat and shrinkage that causes a seal portion to peel off. See, e.g., Shibuya, col. 1, lines 49-61. PVDC has a gas barrier property, oil resistance, excellent tearing-by-hand, but inferior cold resistance. See, e.g., Shibuya, col. 1, lines 19-26. PVDC blended with polyester does not overcome the inferior cold resistance. See, e.g., Shibuya, col. 1, lines 33-35. Therefore, Shibuya is directed to obtaining cold resistance, while retaining the oil resistance and tearing-by-hand properties of PVDC.

However, Shibuya does not teach producing the desired properties by adding only polyester, but polyester elastomer as well and at particular ratios with the PVDC and polyester. See, e.g., Shibuya, col. 4, lines 62-65. It can be understood from the examples in Shibuya that by adding polyester elastomer, the cold resistance may improve while the gas barrier property may deteriorate. Such a tendency may be seen, e.g., in Examples 1 to 4 and Comparative Examples 1 and 2.

Therefore, those skilled in the art would recognize that by adding elastomer, according to the teachings of Shibuya, properties other than film cold resistance might deteriorate. Hence, combining a polyester elastomer of Shibuya in order to improve the cold resistance of the film of Fukuda would likely result in deterioration of properties of the Fukuda film, such as the shrinkage property.

Furthermore, the films of Shibuya have very different compositions and inferior shrinkage properties compared to those of Fukuda and compared to those of the claimed film. Moreover, Shibuya discloses that PVDC is an essential component of its films to achieve a

gas barrier property and excellent cold resistance. Shibuya films are therefore substantially different from those of Fukuda, which discloses polyester-only films. There is neither teaching nor suggestion in Fukuda to improve cold resistance in a polyester film which already inherently possesses cold resistance by itself. Shibuya, on the other hand, attempted to improve cold resistance because PVDC inherently has less cold resistance. Therefore, there is no motivation to combine various components of these different Fukuda and Shibuya films in such a way as to arrive at the claimed film.

Furthermore, Applicants conducted considerable trial and error experimentation to obtain the claimed film, in which polyester elastomer and other components were used to achieve the claimed shrinkage property. Therefore, simply looking at the Fukuda and Shibuya references, a skilled artisan would not have had a reasonable likelihood of successfully combining these films in a way that would result in a new film with properties of the original film, let alone a film with the superior shrinkage properties claimed. In the delicate art of making films, it would have been expected that some or all the original properties of a film could have been diminished as a result of mixing various components. See, e.g., Shibuya, col 5, lines 59-68.

Adhesive Retention

On page 4 of the Office Action, the Examiner asserts that the claimed adhesive retention is “a desired result of the invention, rather than a structural limitation.” Applicants disagree. As explained previously to the Examiner, adhesive retention is a physical property of the claimed film that can be objectively measured as defined in the claims.

103(a) Rejections over Fukuda in view of Shibuya and Yoshinaka

Claims 14, 19, 24, and 29 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda in view of Shibuya and further in view of Yoshinaka (U.S. Patent No. 4,996,291). Applicants traverse the rejections.

The deficiencies of Fukuda and Shibuya are not corrected by Yoshinaka. Hence, the claims are patentable over Fukuda, Shibuya, Yoshinaka, and the combination thereof.

CONCLUSION

Applicants submit that the claims as presently written are allowable and an early and favorable action to that effect is respectfully requested.

The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any information concerning this application.

The Office is hereby authorized to charge the fee for an Extension of Time and any additional fees under 37 C.F.R. 1.16 or 1.17 or credit any overpayment to Kenyon & Kenyon Deposit Account No. 11-0600.

Respectfully submitted,

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